

U.S. Application No. 09/786,621 -- 2

1. (withdrawn) A method for sound reproduction, in which a vibrating diaphragm controlled by an operating device produces sound in the air surrounding it on the first side, and in which acoustic feedback is prevented by preventing the passage of the air over the edge of the diaphragm to its other side, and in which the air transports the sound to the surrounding free space, characterized in that the aforesaid diaphragm is formed as a uniformly vibrating, essentially straight and high element, so that the height H of diaphragm is at least three times, its width W, and that an essentially closed chamber is formed in front of diaphragm, except for a port arrangement, in which at least one port essentially corresponding to the height of the diaphragm permits the passage of air and thus of sound from chamber to the free space.

2. (withdrawn) A method according to Claim 1, characterized in that the width d of the port is 12 - 30 % of the width W of diaphragm.

3. (withdrawn) A method according to Claim 1, characterized in that the edge of said port opening onto the free space is rounded to a radius of 5 - 30 mm.

4. (withdrawn) A method according to one of Claim 1, characterized in that said port is formed by placing diaphragm on one, essentially flat, side of cabinet and placing this side close to a wall surface, so that at least one said port is formed between the edge of the side of the cabinet and the wall surface.

5. (withdrawn) A method according to Claim 1, characterized in that said diaphragm is permanently placed in a construction forming chamber, in the center of which is the aforesaid port on the side opposite to diaphragm.

6. (currently amended) A pillar loudspeaker intended for sound reproduction indoors and outdoors, which pillar loudspeaker includes a cabinet construction

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supporting a diaphragm, at least one operating device for driving the diaphragm, which is operationally a straight, unified, and relatively stiff single component, which is tall vertically and narrow horizontally in such a way that the height H of said diaphragm is at least three times, preferably five times greater than its width W, and in which the diaphragm is arranged to vibrate mechanically by means of the force of said operating device to produce a sound in the free space, the cabinet construction being arranged to prevent acoustic feedback in such a way that the cabinet construction encloses one side of said diaphragm within it, the other side having an air connection to the free space, characterized in that the loudspeaker includes a non-circular ~~port~~ narrow opening arrangement, comprising at least one elongated ~~port~~ narrow opening which is high vertically and narrow horizontally in front of said diaphragm in the construction forming chamber and leading away from chamber, to allow air to pass from chamber to the free space.

7. (currently amended) A pillar loudspeaker according to Claim 6, characterized in that said diaphragm is placed at the side of said cabinet, which is arranged to be installed with attachment devices at a distance from and facing a wall surface, at least one ~~port~~ narrow opening being formed between an edge of the side of said cabinet and wall surface.

8. (currently amended) A pillar loudspeaker according to Claim 6, characterized in that the cabinet construction includes an enclosure construction enclosing said diaphragm, in which enclosure there is a ~~port~~ narrow opening on the side opposite said diaphragm.

9. (currently amended) A pillar loudspeaker according to Claim 6, characterized in that the width d of said ~~port~~ narrow opening is 12 - 30 % on the width W of said diaphragm.

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10. (currently amended) A pillar loudspeaker according to Claim 6, characterized in that the loudspeaker includes several point-like operating devices and that said diaphragm has a curved cross-section, to stiffen it.

11. (previously presented) A loudspeaker according to Claim 6, characterized in that the loudspeaker includes one or more high linear operating devices.

12. (previously presented) A loudspeaker according to Claim 6, characterized in that said diaphragm comprises a composite material, molded, or laminated construction, its material being aluminum, kevlar, carbon-fibre, urethane, or wood fibre.

13. (currently amended) A loudspeaker according to Claim 11, characterized in that a voice coil element, which moves in an air connecting port narrow opening of the body of a said linear operating device and is elongated in its circumferential plane, is attached either directly or indirectly to the base of said diaphragm.

14. (currently amended) A loudspeaker according to Claim 13, characterized in that the body of said linear operating device is a unified component, which forms two high ports narrow openings between the magnetic poles, with a high voice coil being fitted into these ports narrow openings.

15. (currently amended) A loudspeaker according to Claim 14, characterized in that the body of said high voice coil is made from aluminum.